



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Division of Ecological Services

9014 East 21st Street

Tulsa, Oklahoma 74129-1428

918/581-7458 / (FAX) 918/581-7467



American Burying Beetle *Nicrophorus Americanus*

Trapping and Relocating Guidance In Oklahoma

Updated May 20, 2009

Introduction

The goal of this document is to provide guidance in designing and conducting trapping and relocation efforts for the ABB as a means of complying with section 7 and 9 of the Endangered Species Act (ESA). Section 9 of the ESA prohibits all persons from the taking of federally listed species. Take includes harming, harassing, or killing. Section 7 of the ESA requires federal agencies to consult with the Service if a project they authorize, fund, or carry out may adversely affect a federally listed species. Trapping and relocating is a technique to remove ABBs from a given area prior to soil disturbance. Implementing other relocation measures, not recommended by the Service, may not result in avoidance of impacts or take of the ABB. Trapping and relocating methods primarily follow the Service's "ABB Survey Guidance", but any captured ABBs are relocated elsewhere. The "ABB Survey Guidance" is available at <http://www.fws.gov/southwest/es/oklahoma/beetle1.htm>. The following "Trapping and Relocating Guidance" takes precedence over conflicting guidance in the "ABB Survey Guidance".

Time

Trapping and relocating should be implemented during the ABB's prime active period in Oklahoma, May 20 to September 20. Refer to the Service's "ABB Survey Guidance" for additional information.

Timing

Trapping and relocating should be implemented during the ABB's prime active period in Oklahoma, May 20 to September 20. Although the capture rates of ABBs are known to be higher during certain dates within their prime active period, the Service is not recommending restricting bait away implementation to specific dates during this prime active period. Refer to the Service's "ABB Survey Guidance" for additional information.

Minimum Trap and Relocate Effort

To have confidence in avoiding impacts to ABBs, a minimum of 3 consecutive nights of trapping where no ABBs are captured is needed. Trapping and relocation more than 4 nights may be required if ABBs continued to be captured. Once 3 consecutive nights pass in which no ABBs are captured, the project/soil disturbance can commence. Once the area is disturbed (*i.e.*, topsoil and vegetation cleared) it is assumed that the ABB would not be attracted to the disturbed area.

Timeframe a Trap and Relocate Effort is Valid*

Trapping and Relocating Conducted for Projects Implemented During the **Active Period**:

Trapping and relocation efforts conducted during the ABBs active period are only valid for 5 days after the 3rd night of trapping in which no ABBs are captured. After 5 days have passed and the project soil disturbance has not commenced additional trapping and relocation will be needed.

Trapping and Relocating Conducted for Projects Implemented During the **Inactive Period**:

As stated above, 3 consecutive trapping nights where no ABBs are captured is needed to avoid impacts to the ABB. The Service does not recommend conducting trap and relocation at the end of the ABBs active season as a means of removing ABBs from a project site so soil disturbance can commence during the ABBs inactive season. We do not recommend this because it is impossible to predict when or if 3 consecutive nights of trapping with no ABB captures will occur. It is possible that the ABBs inactive period will commence before 3 consecutive nights of no ABB captures is reached.

Trap and Relocate Effective Radius*

The effective radius of a trap and relocate effort is dependent on the number of transects deployed. Each transect has an effective trapping radius of approximately 0.5 mile. Refer to the Service's "ABB Survey Guidance" for additional

information.

Transect Spacing and Placement *

Transects should be spaced 0.5 mile apart on all projects and about 500 feet outside the perimeter of the project for both linear and non-linear, irregardless of the project size. Transects should be placed in a configuration that best represents the different habitat types present in the survey area and on the highest spots in the survey area.

Nonlinear projects with a radius equal to or less than 0.5 mile from the center to any given point along the perimeter should deploy transects outside the project boundary so ABBs are not lured into the project site.

For linear projects with a width equal to or less than 0.5 mile, transects should be deployed alternately along both sides of the projects long boundaries at 0.5 mile intervals. (Meaning one transect should be deployed on side A and then another transect deployed 0.5 linear mile away on side B, and so on). For linear projects with a width between 0.5 and 1 mile, transects should be deployed length-wise along both long sides of the project at 0.5 mile intervals.

There are some projects where the rights-of-way or areas outside the project boundary are unavailable or too small for transect deployment. In these cases, transects can be deployed at 0.5 mile intervals inside the project boundary so the entire project area is within the effective trapping area of at least one transect. Transects must be deployed in areas where no soil disturbance will occur or where soil disturbance has already occurred and will not be disturbed again.

If none of the above can be applied, then additional coordination with the Service is recommended.

Transect

Same as the Service's "ABB Survey Guidance".

Traps

Same as the Service's "ABB Survey Guidance".

Bait

Same as the Service's "ABB Survey Guidance".

Setting and Checking Traps

Same as the Service's "ABB Survey Guidance".

Disturbed bait or traps

Same as the Service's "ABB Survey Guidance".

Processing ABBs

All ABBs captured and relocated must be marked with a numbered, colored bee tag. No other type of marking is allowed unless specifically authorized by the Service, this include clipping of the elytra. Bee tags should be attached to the elytra with superglue gel (not liquid, this is too runny). Tagged ABBs must be monitored until glue dries (about 5 minutes) to ensure wings are not glued together and they are able to fly.

Holding and Transporting ABBs

ABBs to be held for transport must be confined in a hard plastic container. The container must contain a damp paper towel, meal worms for food, and puncture holes for air. Containers must be placed in a cooler with sufficient coolant to keep the temperature at approximately 60 to 65 degrees Fahrenheit. Each ABB should have 6 square inches of surface area. Each ABB should be kept in an individual container. Keep coolers out of the sun while in the field and during transport. During transport the cooler should be in air-conditioned vehicle. ABBs can only be held in this manner for 3 hours.

ABB Release

All relocations of ABBs must be coordinated and approved by the Service prior to initiating any trap and relocation effort. Release locations must have documented current occurrences of ABBs. Prior written approval from the

landowner must be obtained before ABBs can be released. Release ABBs should be provisioned with carrion at the release site. If the release occurs May or June the a male and female ABB should be paired and placed on a 200 gram carcass. If the release occurs after June then each individual ABB should be provided a piece of carrion. The size of carrion can be as small as 5-7 oz during this time period.

Reporting

The Service has prepared a standard '*Trapping and Relocating Form*' (Appendix 1). Use of this form ensures that all of the needed data is recorded. This form must be completed and submitted to the Oklahoma Service Field Office within 30 days of completing the relocation effort.

This form is to be completed for each trap and relocation effort for each night during the trap and relocation effort. The "*Trapping and Relocating Form*" must be completed in Excel. This is to be submitted electronically in excel file format to ABBcontact@fws.gov. The Service will then review the form and provide a response, via electronic mail, regarding our acceptance or non-acceptance of the bait away effort as sufficient.

If trap and relocation effort is conducted in compliance to the Endangered Species Act or the National Environmental Protection Act, project names and numbers need to correctly correspond. Each row in the spreadsheet should represent an individual bait station. All latitude and longitude data should be reported in decimal degrees and the coordinate system/projection should be in NAD 83. Only complete and accurate forms will be accepted. Incomplete and/or inaccurate forms will be returned and the trap and relocation effort will be considered invalid until the forms are corrected and/or properly completed, and submitted. When sending corrected forms, indicate that it is a correction, what specifically has been corrected, and the project name.

Accidental Death

Same as the Service's "ABB Survey Guidance".

Protocols and Forms

All forms can be downloaded from the Oklahoma Ecological Services Field Office's website <<http://www.fws.gov/southwest/es/oklahoma/beetle1.htm>>.

*Trap and relocation radius and validity, and transect placement and spacing are more restrictive for "ABB Trapping and Relocating Guidance" than the Service's "ABB Survey Guidance" because ABB surveys are only aimed at determining the presence or absence of ABBs. Whereas, trapping and relocating is aimed at removing all ABBs from the project area.*Transects and trap design should follow the Services "ABB Survey Guidance" dated April 6, 2005.

This guidance was developed from the U.S. Fish and Wildlife Service's July 14, 2005, "ABB Survey Guidance" and a U.S. Fish and Wildlife Service Working Group on May 6, 2004, and other meetings between Service personnel and permittees in March and April 2009. The Oklahoma Ecological Services Field Office, in coordination with other Field Offices, update this protocol as necessary due to new findings. The purpose of this guidance is to streamline and update American burying beetle trap and relocate recommendations among the Arkansas, Oklahoma, Kansas, and Arlington, Texas Field Offices. However, each state protocol may be different in some manners due to the land use and actions that occur in the different states. Each state Service office should be contacted for their most current protocols.